

ABSTRACT

A process for the preparation of a polymer composite comprising internally distributed deposition matter wherein the process comprises providing a deposit of deposition matter at the surface of a solid state polymer substrate, contacting the surface deposited polymer with a plasticising fluid or a mixture of plasticising fluids under plasticising conditions to plasticise and/or swell the polymer and internally distribute deposition matter, and releasing the plasticising fluid or fluids to obtain polymer composite.; A polymer composite comprising a porous or non porous polymer throughout which particulate deposition matter as hereinbefore defined is distributed with desired uniformity, preferably with high uniformity in excess of 80% for example in excess of 98%.; A scaffold comprising a polymer composite having internally distributed deposition matter; and use of the composite as a support or scaffold for drug delivery, for use in bioremediation, as a biocatalyst or biobarrier for human or animal or plant matter, for use as a structural component, for example comprising the polymer and optional additional synthetic or natural metal, plastic, carbon or glass fibre mesh, scrim, rod or like reinforcing for medical or surgical insertion, for insertion as a solid monolith into bone or tissue, as fillers or cements for wet insertion into bone or teeth or as solid aggregates or monoliths for orthopaedic implants such as pins, or dental implants such as crowns etc.